CLAIMS

What is claimed is:

1. A method of making a long life double layer capacitor comprising:

juxtaposing a respective side of each of a plurality of electrodes with one of a plurality of current collector foils wherein each of the plurality of electrodes comprises carbon;

interposing a porous separator between respective other sides of each of the plurality of electrodes;

saturating the plurality of electrodes with an electrolyte solution;

sealing hermetically the plurality of electrodes and the plurality of current collector foils within a case to substantially inhibit an influx of impurities into the electrolyte solution.

2. The method of claim 1 wherein said sealing comprises:

interposing a glass-to-metal seal between an opening in said case and a first terminal; and

electrically coupling the first terminal to one of said plurality of current collector foils.

3. The method of claim 2 wherein said glass-to-metal seal can withstand exposure to temperatures of up to 250° C for periods of up to 5 minutes.

4. The method of claim 1 wherein said interposing comprises interposing said porous separator wherein said porous separator can withstand exposure to temperatures of up to 250° C for periods of up to 5 minutes.

5. The method of claim 4 wherein said porous separator comprises polytetrafluoroethylene (PTFE).

6. A method of making a double layer capacitor comprising:

coupling a first current collector foil to an internal portion of a first terminal;

folding a first electrode over the current collector foil wherein the first electrode comprises carbon;

placing a porous separator against the first electrode;

juxtaposing a second electrode against the porous separator wherein the second electrode comprises carbon;

coupling electrically the second electrode to a case;

saturating the first electrode and the second electrode with an electrolyte solution; and

sealing hermetically the case, wherein the electrolyte is substantially contained within the case, and wherein influx of impurities into the electrolyte solution is substantially impaired.

7. The method of claim 6 wherein said placing said porous separator comprises enveloping said first electrode with said porous separator.

8. The method of claim 7 wherein said juxtaposing comprises juxtaposing said second electrode over said porous separator.

9. The method of claim 8 wherein said coupling electrically comprises:

juxtaposing a second current collector foil over the second electrode; and

contacting the second current collector foil with the case.

10. The method of claim 6 wherein said sealing hermetically includes:

forming a glass-to-metal seal between another portion of said first terminal and said case.

11. The method of claim 10 wherein said sealing hermetically further includes:

welding a header to a can, wherein the header includes the glass-to-metal seal.

12. The method of claim 10 further comprising:

selecting material for said first terminal having a coefficient of thermal expansion substantially similar to a coefficient of thermal expansion of glass.

13. The method of claim 12 wherein said selecting comprises selecting molybdenum.

14. The method of claim 12 wherein said selecting comprises selecting platinum plated molybdenum.

15. The method of claim 12 wherein said selecting comprises selecting a plating material for said first terminal that is solderable.

16. The method of claim 6 further comprising selecting a material for said porous separator that can withstand exposure to temperatures of up to 250° C for periods of up to 5 minutes.

17. The method of claim 16 wherein selecting said material for said porous separator comprises selecting said material comprising polytetrafluoroethylene (PTFE).

18. The method of claim 6 further comprising selecting materials to make said double layer capacitor that can withstand exposure to temperatures of up to 250° C for periods of up to 5 minutes.

19. The method of claim 6 further comprising placing a modest constant pressure on said first and second electrodes, said first and second current collector foils, and said porous separator.

20. The method of claim 19 wherein said placing said modest constant pressure comprises forming crimps in said case.